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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,945	12/03/2001	Shigetaka Yamamoto	X2007.0092/P092	2752

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EXAMINER	
FISHER, LATONIA M 7	
ART UNIT	PAPER NUMBER
1623	

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/006,945	Applicant(s) YAMAMOTO ET AL.	
	Examiner La Tonia M. Fisher	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claims 1-9 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the wording "formalification" is ambiguous and undefined.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zemans (USPN 4,144,089) in view of Rowell et al. (USPN 4,804,384).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1 is drawn to a method for treating wooden material comprising subjecting the wooden material to a bleaching treatment and subjecting the wooden material to an acetylating treatment. Claim 2 limits the method of claim 1 wherein the acetylating treatment is carried out after the bleaching treatment. Claim 3 limits claim 2 wherein the wooden material is bleached, washed and dried and then subjected to the acetylating treatment. Claim 4 is drawn to the method of claim 1 wherein a bleaching solution for the bleaching treatment is selected from a hydrogen peroxide solution, a chlorite solution and a hypochlorite solution, all of which are pH adjusted to 9 to 12. Claim 5 limits the method of claim 1 wherein the degree of acetylation of the wooden material is in the range of 1 to 25% by weight gain in the wooden material. Claim 6 limits the method of claim 3 wherein the wooden material is washed and dried until the moisture content in the wooden material is 13% by weight or less relative to the total weight of the wooden material. Claim 7 limits the method of claim 1 wherein the bleaching treatment comprises immersing the wooden material into a bleaching solution and the acetylating treatment is carried out until the degree of the acetylation becomes 5% or more by weight gain. Claim 8 is drawn to a method for treating wooden material comprising subjecting the wooden material to a bleaching treatment and subjecting the wooden material to a substituting treatment in which a phenol hydroxyl group

included in the wooden material is substituted with another group. Claims 9 limits the method of claim 8 wherein the step of subjecting the wooden material to the substituting treatment is an acetylating treatment, an oligoesterification treatment, an etherification treatment or a formalification treatment.

Zemans teaches a method for bleaching a wooden article comprising contacting the wooden article with a basic solution, subjecting the wooden article to a bleaching agent with hydrogen peroxide, washing the wooden article and then contacting the wooden article with acetic acid to neutralize alkali residue on the article. See USPN '089, claims 1-12. Zemans discloses that the pH of the hydrogen peroxide in the prior art invention is adjusted by the addition of alkali when necessary to be greater than 10, but less than 11. See USPN '089, col. 3, lines 22-24. Zemans teaches bleaching wood and neutralizing the bleaching agent with a weak acid. See USPN '089, col. 2, lines 16-25. The weak acid disclosed to be useful in neutralizing the bleaching agent is acetic acid. See USPN '089, claims 1 and 8. At column 2, lines 23-25, Zemans contemplates additional processing to improve the quality of the bleached workpiece, such as supplementing various washing and drying steps.

Zemans does not specifically teach a method of treatment of wood comprising subjecting the wooden material to an acetylating treatment. However, Zemans does contemplate additional processing of the bleached product to improve the quality of said product.

Rowell et al. teaches a method of treating a wood material comprising subjecting the wooden material to acetylation wherein the acetylation results in a weight gain of from 13 to 12 percent by weight and where the moisture content of the wooden material is from 0 to 20 percent by weight. See USPN '384, col. 4, lines 66-68 and col. 5, lines 27-31. See also claims 1-18.

Advantages obtained when acetylating a wooden product include quality improvement, wherein stabilization of the surface layer by acetylation can improve long-term adhesion of applied surface coatings and minimize formation cracks and the loosening of the coatings. See USPN '384, col. 4, lines 41-44.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to treat wooden material by subjecting the wooden material to a bleaching treatment and subjecting the wooden material to acetylation as the applicants have done with the references before them. It requires no skill in the art to combine art known methods of treating wood to improve the quality of the wooden product. The primary reference teaches the desirability to improve the quality of a bleached product by subsequent reaction steps. It is known that acetylation reactions improve both dimensional stability and resistance to biological attack as taught in Rowell et al.

Conclusion

Claims 1-9 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to La Tonia M. Fisher whose telephone number is (703) 306-5819. The examiner can normally be reached on Monday - Friday from 9:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on (703) 308-4532. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4556 for regular communications and (703) 308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

JAMES O. WILSON
SUPERVISORY PATENT EXAMINER
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